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Squire, Sanders & Dempsey

Additional Offices:
Brussels, Belgium
Columbus, Ohio
Miami, Florida
New York, New York
Phoenix, Arizona
Washington, D.C.

Counsellors at Law
1800 Huntington Building
Cleveland, Ohio 44115

March 2, 1987

Telephone (216) 687-8500
Cable "Squiresand"
Telex 985-661
Telecopier 1 (216) 687-8777
Telecopier 2 (216) 687-8780

Direct Dial Number

(216) 687-8571

FEDERAL EXPRESS

Mr. Paul Dimock
Waste Management Division
RCRA Enforcement Section
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

RECEIVED

MAR 02 1987

U.S. EPA REGION 4
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT SECTION

Re: In Re Grady McCauley Creative Graphics, Inc.
Case No. V-W-85 R-35

Dear Paul:

On behalf of Grady McCauley Creative Graphics, Inc. ("Grady McCauley"), I am submitting the enclosed technical reports listed below and this letter in full satisfaction of the requirements of the Consent Agreement and Final Order (CAFO), especially ORDER ¶3 (p. 3) and ¶9 (p. 5).

- (1) The Ohio Drilling Company, Status Report on Groundwater and Subsurface Soil Sampling - dated February 23, 1987
- (2) Wadsworth Laboratories, Inc., Analytical Report - dated January 15, 1987
- (3) Wadsworth Laboratories, Inc., Analytical Report - dated January 19, 1987
- (4) Wadsworth Laboratories, Inc., Analytical Report - dated January 22, 1987
- (5) Wadsworth Laboratories, Inc., Analytical Report - dated February 11, 1987
- (6) Wadsworth Laboratories, Inc., Analytical Report - dated February 17, 1987

The enclosed Status Report by The Ohio Drilling Company and the supporting Analytical Reports by Wadsworth Testing Laboratories set forth the results for Phase I of the Groundwater

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and Subsurface Soil Sampling Plan dated May 29, 1986 prepared by Boinski Environmental Consultants, Inc.

As you will quickly note, the enclosed February 23 Status Report explains that: "[n]o volatiles were detected in any of the soil borings." (p. 4) Nor were any organics found in any of the soil samples collected during the drilling of the three new monitoring wells. (p. 5).

With respect to lead, the February 23 Status Report explains that no lead was detected in the soil samples collected during the drilling of the three new monitoring wells. (p. 5). Furthermore, no lead was detected in more than two-thirds of the 23 soil borings. As you know, the Extraction Procedure (EP) Toxicity level for lead is 5.0 milligrams per liter (mg/l). Where lead was detected, it was at levels less than one-tenth (one order of magnitude) smaller than this level. For example, the February 23 Status Report states that: "[t]he highest measured lead level was 0.28 mg/kg at boring S-14." (p. 4). Of the 23 borings, each of which had four replications, only five had detectable lead in more than half of the replicates, and only one had detectable lead in all four replicates.

As you may recall, U.S. EPA proposed Recommended Maximum Contaminant Levels (RMCLs) at 50 Fed. Reg. 47022 (Nov. 13, 1985). RMCLs are the levels of contaminants which are permissible in drinking water at the tap from major drinking water systems. 50 Fed. Reg. 46902 at 47022 (Nov. 13, 1985). RMCLs are non-enforceable health goals established under The Safe Drinking Water Act, 42 U.S.C. 300(f) et seq. RMCLs are to be set at a level at which, in U.S. EPA's judgment, "no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety." SDWA § 1412(b)(1)(B). RMCLs are distinguished from MCLs which are enforceable standards and which take feasibility into account.

The stringent RMCL which U.S. EPA has proposed for ethyl benzene is 0.68 mg/l or 680 ug/l and the RMCL which U.S. EPA has proposed for for xylene is 0.44 mg/l or 440 ug/l. Thus, ethyl benzene concentrations below 680 parts per billion and xylene concentrations below 440 parts per billion are below the levels at which, in U.S. EPA's judgment, "no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety."

The one page summary of the chemical analysis of the water samples set forth in the Appendix in the enclosed February 23 Status Report and the enclosed Analytical Reports show that no

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methylene chloride was detected in any of the four replicates taken of the samples of the eight wells. Similarly, no ethyl benzene nor xylene were detected in any replicates in seven of the eight wells.

Well No. 1 had ethyl benzene detected from 5 to 7 parts per billion (ppb), more than two orders of magnitude below the Safe Drinking Water Act stringent RMCL health goal of 680 ppb. Similarly, xylene was detected in Well No. 1 from 11 to 14 ppb, more than one order of magnitude below the Safe Drinking Water Act stringent RMCL health goal of 440 ppb.

While no RMCL under the Safe Drinking Water Act has been proposed by U.S. EPA for isophorone, U.S. EPA has promulgated a final Water Quality criteria "protective of human health" which the Agency itself has described as "analogous" to a RMCL under the Safe Drinking Water Act. U.S. EPA's human health criteria for isophorene is 5.2 mg/l or 5,200 ug/l. 45 Fed. Reg. 79336 (Nov. 28, 1980) U.S. EPA explained its stringent Water Quality criteria in the Federal Register:

Section 304(a)(1) criteria provide estimates of pollutant concentrations protective of human health, but do not consider treatment technology, costs and other feasibility factors. . . . Section 304(a)(1) criteria may be analogous to the recommended maximum contaminant levels (RMCLs) under section 1412(b)(1)(B) of the SDWA in which, based upon a report from the National Academy of Sciences, the Administrator should set target levels for contaminants in drinking water at which "no known or anticipated adverse effects occur and which allows an adequate margin of safety." RMCLs do not take treatment, cost, and other feasibility factors into consideration. Section 304(a)(1) criteria are, in concept, related to the health-based goals specified in the RMCLs.

. . .

MCLs of the SDWA, where they exist, control toxic chemicals in finished drinking water. However, because of variations in treatment and the fact that only a relatively small number of MCLs have been developed, ambient water criteria may be used by the States as a supplement to SDWA regulations.

. . .

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The human health effects criteria for isophorene is the most stringent criteria (although there are no fresh water or salt water aquatic life in the groundwater at Grady McCauley's property on Middlebranch Road). U.S. EPA's explanation of the level of isophorene which would be permissible in drinking water and "protective of human health" is:

Human Health

For the protection of human health from the toxic properties of isophorone ingested through water and contaminated aquatic organisms, the ambient water criterion is determined to be 5.2 mg/l.

For the protection of human health from the toxic properties of isophorone ingested through contaminated aquatic organisms alone, the ambient water criterion is determined to be 520 mg/l.

45 Fed. Reg. at 79336

Thus, U.S. EPA's most stringent Water Quality criteria for isophorone protective of human health is 5.2 mg/l or 5,200 ug/l or 5,200 parts per billion.

The enclosed February 23 Status Report shows that isophorone was detected in Well No. 3A from 91 to 120 ppb and in Well No. 5 from 280 ppb 530 ppb, less than one-tenth the standard (one order of magnitude) below U.S. EPA's human health criteria of 5,200 ppb.

As you know, under the Consent Agreement and Final Order (CAFO), the data collected pursuant to the Sampling Plan becomes the basis for Grady McCauley's preparation of a Closure Plan for the dry wells (CAFO Order ¶4) and a Feasibility Study addressing any contaminated soil and groundwater (CAFO Order ¶¶7-8). Grady McCauley needs to know whether the two Agencies would like Grady McCauley to proceed with a second phase of soil sampling and/or groundwater monitoring for another 90 days before Grady McCauley prepares its Closure Plan and Feasibility Study. Should the Agencies desire additional sampling, Grady McCauley believes strongly that this Phase II of sampling should be focused based on

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the enclosed results from Phase I. Grady McCauley would like to develop a more precise definition of the extent of lead concentrations in the area of the "hot spots" identified during Phase I of the sampling.

Please let us know your decision at the earliest possible time. We would be happy to meet and discuss this matter with you.

Sincerely yours,



Kenneth C. Moore

/eaw

Squire, Sanders & Dempsey

Additional Offices:

*Brussels, Belgium
Columbus, Ohio
Miami, Florida
New York, New York
Phoenix, Arizona
Washington, D.C.*

*Counsellors at Law
1800 Huntington Building
Cleveland, Ohio 44115*

March 28, 1988

Telephone (216) 687-8500

Cable "Squiresand"

Telex 985-661

Telecopier 1 (216) 687-8777

Telecopier 2 (216) 687-8780

Direct Dial Number

(216) 687-8571

CERTIFIED MAIL **RETURN RECEIPT REQUESTED**

Waste Management Division
RCRA Enforcement Section
ATTN: Jim Saric
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Division of Solid & Hazardous
Waste Management
Northeast District Office
Ohio EPA
ATTN: Mark Bergman, R.S.
2110 East Aurora Road
Twinsburg, Ohio 44087-1969

RECEIVED
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
OFFICE OF THE DIRECTOR

Re: In Re Grady McCauley Creative Graphics, Inc.
Case No. V-W-85 R-35

Dear Sirs:

On behalf of Grady McCauley Creative Graphics, Inc. ("Grady McCauley"), I am submitting the Sampling Report on the Phase II soil sampling for lead to both U.S. EPA and Ohio EPA. This Phase II Soils Sampling Report was prepared for Grady McCauley by Boinski Environmental Consultants, Inc. Please note that the Phase II Soils Sampling Report includes:

- A. Appendix I: Phase II Soil Sampling Plan. This Sampling Plan itself includes (i) Plot Plan of Additional Soil Sampling Locations (ii) Soil Sampling Point Grid for Upgradient (Background) Sampling Point Number 24 and (iii) Full Text of Analytical Methods and QA/QC Procedures.

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- B. Appendix II: Complete Surface and Subsurface Soil Sampling Data. This data is summarized in Table I (p. 2) of the Phase II Soils Sampling Report.
- C. Appendix III: Complete Background Surface Soil Sampling Data. This data is summarized in Table II (p. 3) of the Phase II Soils Sampling Report.

The enclosed Phase II Soils Sampling Report is being submitted to U.S. EPA and Ohio EPA in connection with the Consent Agreement and Final Order ("CAFO") in the above-captioned case and related correspondence on its implementation.

As you may recall, under the CAFO, once sufficient and appropriate data have been collected from sampling, the sampling data becomes the basis for Grady McCauley's preparation of a Closure Plan for the drywells (CAFO Order, ¶ 4) and a Feasibility Study addressing any contaminated soil and ground water (CAFO Order, ¶¶ 7-8). Thus, for example, the data collected pursuant to the Phase II soils sampling will be used in the Feasibility Study to address the issue of contaminated soil.

If U.S. EPA and Ohio EPA would like Grady McCauley to prepare a Phase III Soil Sampling Plan embodying the recommendation contained in Paragraph 6.0 on page 5 of the enclosed Phase II Soils Sampling Report by Boinski Environmental Consultants, Inc., please let us know. On the other hand, if the Agencies conclude that further sampling is not required and that Grady McCauley should commence preparation of the Closure Plan for the drywells and the Feasibility Study for any contaminated soil and ground water at the facility, please let us know.

Thank you very much.

Sincerely yours,



Kenneth C. Moore

/lgb

cc: Dennis Grady
David McCauley
Frank Boinski



BOINSKI ENVIRONMENTAL CONSULTANTS, INC.

Sampling Report:

Phase II Soils
Grady McCauley Creative Graphics, Inc.
Middlebranch Road Site
Middlebranch, Ohio 44652

Date:

March 23, 1988

Prepared By:

Boinski Environmental Consultants, Inc.
P.O. Box 971
Dunkirk, New York 14048
(716) 672-8391

Approved By:

F.J. Boinski, CHMM, R.E.A.
Executive Vice President

1.0 Introduction

This report addresses additional information developed at the formerly active Grady McCauley Creative Graphics, Inc. Middlebranch, Ohio, site as a result of the completion of the activities included in the modified Phase II Sampling Plan dated October 20, 1987. The surface and subsurface soil sampling matrices included in the Phase I sampling program were expanded at the request of U.S.E.P.A. Region V to define further the areal and vertical extent of apparent lead contamination. Additionally, a background location which was not affected by previous trash burning practices was chosen, a sampling grid was developed, and background samples were collected and analyzed.

2.0 Scope of Work

The scope of work was clearly defined in Section 2.0 of the previously referenced sampling plan, a copy of which is attached to this report as Appendix I. No practical purpose would be served by reiterating or summarizing the Plan.

Sampling in the apparent area of contamination was completed in accordance with the Phase II Sampling Plan. Samples in the background area were collected at the surface and to a depth of 2.5 feet only at background grid sampling locations. Only the surface samples were analyzed; samples collected at a depth of 2.5 feet were retained by the laboratory. The decision to make this modification to the plan was based on the results of analyses of samples collected from the grid in the suspected area of contamination and Grady McCauley's recollection of construction and excavation activities which likely resulted in soil mixing and inversion.

3.0 Sample Analyses

Analytical and QA/QC procedures were clearly defined in Section 3.0 of the previously referenced Sampling Plan (See Appendix I). Since, in actuality, there were no deviations from the Plan procedures, no practical purpose would be served by reiterating them.

4.0 Summary of Results

Program results for surface and subsurface samples collected from the area of suspected contamination are summarized below in Table I. Results of the background sampling program and the statistical analyses are summarized below in Table II.

TABLE I
SUMMARY OF SAMPLING RESULTS ^a

SAMPLE POINT I.D.	MEASURED ^b TOTAL LEAD CONCENTRATION (SURFACE) (mg/kg)	MEASURED ^b TOTAL LEAD CONCENTRATION (D = 2.5 FT) (mg/kg)	MEASURED ^b TOTAL LEAD CONCENTRATION (D = 5.0 FT) (mg/kg)
1-A	320.0	63.0	8.0
2-A	17.0	80.0	330.0
3-A	22.0	64.0	13.0
4-A	31.0	5.2	17.0
5-A	56.0	17.0	11.0
6-A	8.6	29.0	17.0
6-B	240.0	14.0	71.0
7-A	14.0	22.0	13.0
8-A	12.0	18.0	6.8
8-B	12.0	25.0	21.0
9-A	7.4	20.0	5.6
9-B	12.0	12.0	14.0
10-A	9.6	20.0	12.0
10-B	25.0	26.0	18.0
10-C	12.0	12.0	14.0
11-A	230.0	270.0	11.0
14-A	510.0	110.0	100.0
15-A	210.0	12.0	9.8
16-A	150.0	35.0	17.0
17-A	24.0	17.0	18.0
18-A	29.0	13.0	13.0
19-A	52.0	12.0	8.6
20-A	30.0	11.0	13.0
20-B	43.0	21.0	8.2
21-A	82.0	12.0	11.0
22-A	71.0	12.0	10.0
22-B	130.0	12.0	12.0
23-A	59.0	8.4	12.0
23-B	74.0	11.0	11.0

^a All samples were collected in accordance with Section 2.0 of the Sampling Plan dated October 20, 1987

^b Total lead analyses were completed pursuant to Section 3.0 of the Sampling Plan dated October 20, 1987

TABLE II
SUMMARY OF RESULTS OF BACKGROUND SAMPLING PROGRAM ^a

SAMPLE POINT I.D.	MEASURED ^b TOTAL LEAD CONCENTRATION (mg/kg)	MEAN (mg/kg)	MEASURED STANDARD DEVIATION (mg/kg)	MEASURED RANGE AT 95% CONFIDENCE LEVEL (mg/kg)	ESTIMATED STANDARD DEVIATION (mg/kg)	ESTIMATED RANGE AT 95% CONFIDENCE LEVEL (mg/kg)
24	20.0	----	----	----	----	----
24-1	13.0	----	----	----	----	----
24-2	23.0	----	----	----	----	----
24-3	13.0	----	----	----	----	----
24-4	19.0	----	----	----	----	----
24-5	14.0	----	----	----	----	----
24-6	20.0	----	----	----	----	----
24-7	22.0	----	----	----	----	----
24-8	22.0	----	----	----	----	----
24-9	19.0	----	----	----	----	----
24-10	17.0	----	----	----	----	----
24-11	18.0	----	----	----	----	----
24-12	23.0	----	----	----	----	----
ALL POINTS	----	18.7	3.4	11.9-25.5	3.6	11.5-25.9

^a All samples were collected at the soil surface

^b Total lead analyses were completed pursuant to Section 3.0 of the Sampling Plan dated October 20, 1987

5.0 Discussion of Results

5.1 Background Samples

Each individual reported result fell within the range of values for naturally occurring concentrations of lead in soils in this area of the State of Ohio as reported in the literature. (Ohio E.P.A. Division of Soils and Hazardous Waste Management Preliminary Closure Plan Review Guidance, p7, December 10, 1985, taken from Logan, T.J., and R.H. Miller, 1983, "Background Levels of Heavy Metals in Ohio Farm Soils", Research Circular 275, Ohio State University, Ohio Agricultural Research and Development Center, Wooster.) A normal distribution was assumed in the statistical evaluation of a population of thirteen data points. A mean concentration of 18.7 mg/kg, a standard deviation of 3.4 mg/kg, and a concentration range of 11.9 - 25.5 mg/kg at a 95 percent confidence level (\pm two standard deviations) were calculated for the data population. An estimated standard deviation and an estimated concentration range were also calculated to determine the adequacy of the size of the data population, i.e. to predict a standard deviation and concentration range for the universe of possible data points. The very close agreement between actual and estimated standard deviations and ranges indicated the adequacy of the data population and certified that it could be used as a sound basis for subsequent comparisons with data collected in the area of suspected contamination.

5.2 Suspected Area of Contamination Samples

Data exceeding the upper limits of the measured and estimated concentration ranges (25.5 mg/kg) was observed at 17 surface points, 8 intermediate depth (2.5 feet) points, and 3 deep (5.0 feet) points. While it was expected that the level of apparent contamination would decrease with increasing depth, apparent anomalies were discovered in the downward vertical direction at some individual sampling points, i.e., measured concentrations were observed to increase with increasing depth (see points 2-A, 3-A, 6-A, and 11-A). A review of the history of activities and expansions at the site explain these unanticipated situations. As earth was removed and moved, and the site was graded, blending and inversion of soils and contaminants occurred. (Refer to Appendix I of the Sampling Plan for physical locations of sampling points.)

In light of the above, it may be fairly concluded that the majority of apparent contamination is surficial and, except in very specific areas, apparent contamination decreases markedly with increasing depth. This discussion has been purposely couched in terms of "apparent contamination" for the reason that a determination of a soil sample's total lead concentration by extracting its lead content with a very strong acid, at a very low pH, likely has little bearing on the migration of lead in its "real world" physical environment. Without site-specific inputs, laboratory, strong acid extraction conditions for total lead will not approximate what is actually occurring at the site. Consequently, the Phase I and Phase II Sampling Programs have generated a large volume of data which only artificially characterizes the site.

March 23, 1988

6.0 Phase III Recommendations

In light of the discussion presented in Section 5.2 above, and given the fact that apparent contamination has been discovered at various depths at various sampling points, a Phase III Sampling Program could be undertaken to determine the site-specific likelihood of lead leaching into the groundwater. Grady McCauley is required to prepare a Feasibility Study under paragraph 7 of the Consent Agreement and Final Order addressing contaminated soil and "the activities which will be undertaken by Respondent to control, minimize, or eliminate, to the extent necessary to protect human health and the environment, escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to ground or surface water or to the atmosphere." To determine, conservatively, on a site-specific basis whether all, some, or none of the total lead detected in the Phase II program will "escape" into the groundwater, it is recommended that any Phase III program should consist of the use of a lysimeter sampling and analysis program. A lysimeter should be constructed with soils collected at ten (10) specified locations within the previously defined sampling matrices; in the interest of conservatism, the lysimeter should be primarily constructed from soils collected at points where the results of prior analyses indicated more significant apparent total lead concentrations. The measurement of the soil pH at each sampling location would also be required. In this manner, the lysimeter could be "extracted" under conditions which would conservatively overstate the physical circumstances at the site. Analyses of the "extract" samples utilizing previously described (See Sampling Plan Section 3.0) techniques and QA/QC procedures would generate meaningful data for the Feasibility Study.

EXTENT !!

Appendix I

October 20, 1987, Sampling Plan



BOINSKI ENVIRONMENTAL CONSULTANTS, INC.

Phase II Soil Sampling Plan
Grady McCauley Creative Graphics, Inc.
Middlebranch Road Site
Middlebranch, Ohio 44652

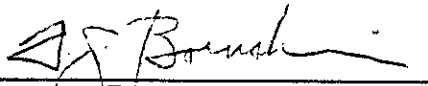
DATE:

October 20, 1987

PREPARED BY:

Boinski Environmental Consultants, Inc.
P.O. Box 971
Dunkirk, New York 14048

APPROVED BY:



F.J. Boinski
Executive Vice President

1.0 Introduction

This partial Phase II sampling plan was prepared in response to a letter dated May 14, 1987, from Mr. William E. Muno, Chief, RCRA Enforcement Section, U.S.E.P.A. Region V (Region V) to Mr. Kenneth C. Moore, Esq., counsel for Grady McCauley Creative Graphics, Inc. (Grady McCauley). Based on historical data developed by Grady McCauley voluntarily and under Consent Decree and Final Order (CAFO) Docket No. V-W-85-P-35, dated December 2, 1986, Region V has requested the development of additional surface and subsurface soil quality data for concentrations of total lead. Conformance with this request will necessarily involve the collection of additional vertical and areal soil samples. Grady McCauley has elected to proceed with the sampling plan described below.

2.0 Scope of Work

This plan is restricted to the matrices of surface and subsurface soil as described below. All QA/QC precautions requisite to sampling procedures will be observed at all times.

2.1 Surface and Subsurface Soils

Phase I sampling results for surface and subsurface soils indicated the absence of measurable concentrations of indicator organic compounds in each of the twenty three (23) borings (four (4) replicates each); also, no indicator organic compounds were detected in measurable concentrations in any of the soil samples collected during the drilling of the three "new" monitoring wells (Nos. 4, 5, & 9). (See the Ohio Drilling Company February 23, 1987, Status Report.) Furthermore, no E.P. extractable lead was detected in these soil samples. Finally, no E.P. extractable lead was detected in more than two-thirds of the samples collected at the additional soil boring locations, and where E.P. extractable lead was detected, measured concentrations were less than one-tenth (one order of magnitude) the maximum allowable "E.P. toxicity" level of 5.0 mg/l as specified at 40 C.F.R., Part 261. Any measurable, residual soil contamination is believed to be confined to areas immediately adjacent to the previously active trash burning area and immediately above abandoned Leach Wells 1 & 2. Additional soil samples will be collected during the proposed Phase II sampling program; individual samples will be collected at the surface and at depths of two and one half (2-1/2) and five (5) feet at each new boring location. New soil boring sites, as depicted in Appendix I, will be located approximately ten (10) feet distant from Phase I sampling locations along perpendicular axes wherever redundancy with a point similarly defined by an adjacent, Phase I, location is not encountered. However, no samples which would require the perforation of existing driveways or sidewalks or which would require undermining any existing buildings or structures will be collected.

The location of a new upgradient, with respect to the apparent direction of groundwater migration, soil sampling location is depicted as point number "24". A minimum of twelve (12) soil samples will be collected at the depth of any apparent contamination as defined by the results of the analyses of samples collected at other Phase II locations; a sampling grid which locates sampling points along perpendicular radii of concentric circles is depicted in Appendix II.

2.2 Sample Collection Frequency

The Phase II Sampling Program will consist of a single sampling round.

3.0 Analytical Procedures

All sample analyses will be completed employing only those methods which have been approved by U.S.E.P.A. Region V as described below. All QA/QC precautions intrinsic to an approved analytical method will be observed at all times. The full text of analytical methods and QA/QC procedures is attached as Appendix III.

Each soil sample will be digested pursuant to the procedure described in 40 C.F.R., Part 261, Appendix III, (Method 3050), and each solution will be analyzed one time for its total lead concentration utilizing atomic absorption spectroscopic (AA) or inductively coupled plasma arc (IPC) techniques pursuant to 40 C.F.R., Part 261, Appendix III, Table II (Method 7420).

4.0 Treatment of Data

The results of the analyses of samples collected at Phase II sampling points will be plotted areally and vertically to define any zone(s) of apparent contamination in three (3) dimensions.

The results of the analyses of samples collected at grid points surrounding point No.24, and at point No.24, will be subjected to a statistical analysis to define their normal distribution. The accepted background concentration of lead will be defined within an envelope bounded by \pm two (2) standard deviations from the mean of the distribution.

5.0 Project Schedule

This surface and subsurface soil sampling program can be completed within 60 days after receiving both agencies' approval of this plan.

6.0 Final Report

A final report describing all field work, analytical results, and conclusions will be issued within thirty (30) days of Grady McCauley's receipt of a final laboratory report. The results of the program described above, combined with historical data, will provide a technical basis for the preparation of a Closure Plan and a Feasibility Study. Grady McCauley's willingness to remove abandoned Leach Wells and possibly contaminated soil above and surrounding the leach wells, which would necessarily be removed with the leach wells, has been a topic of previous discussions with U.S. E.P.A. and Ohio E.P.A.

APPENDIX I

Plot Plan of Additional
Soil Sampling Locations



Locations of Soil Borings (x)

Locations of PHASE II Soil Borings (x)
(N.T.S.)
LEAD LEVELS 725 PPM

APPENDIX II

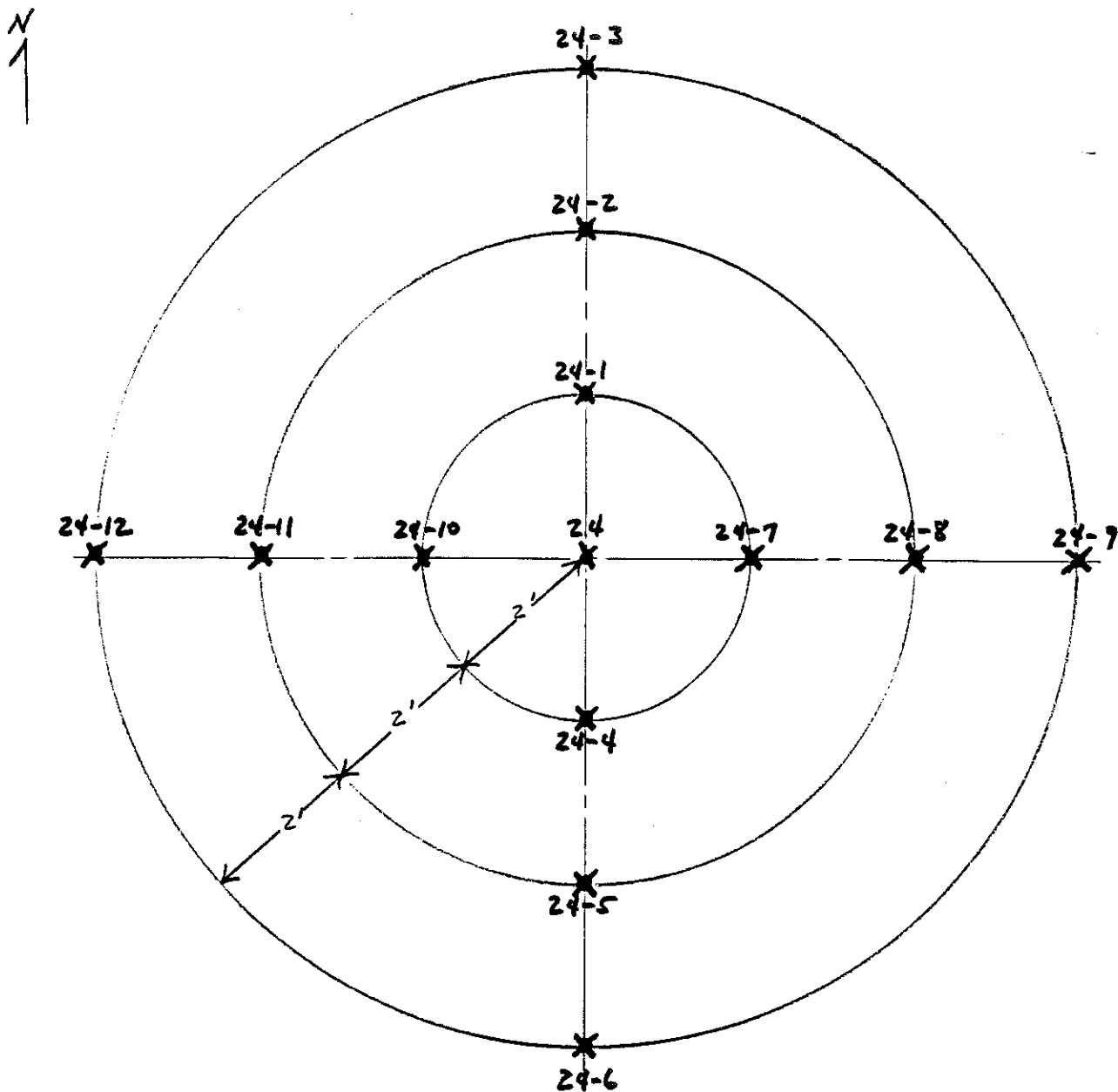
Upgradient Sample Point No.24
Soil Sampling Point Grid

APPENDIX II

UPGRADIENT SAMPLE POINT NO. 24

MW4

SOIL SAMPLING POINT GRID



LOCATIONS OF PHASE II SAMPLING SITES
(N.T.S.)

APPENDIX III

Full Text of Analytical Methods and QA/QC Procedures

4.3 Concentrated Hydrochloric Acid (sp. gr. 1.19)

4.4 Hydrogen Peroxide (30%): Tin-free grade.

5. Sample Preservation, and Handling

5.1 Non-aqueous samples must be refrigerated upon receipt until analysis.

6. Procedure

6.1 Mix the sample thoroughly to achieve homogeneity. For each digestion procedure, weigh and transfer to a conical beaker a 1.0 g portion (to the nearest 0.01 gms) of sample.

6.2 Add 10 ml of 1:1 nitric acid (HNO_3), mix the slurry, and cover with a watch glass. Heat the sample to 95°C and reflux for 10 minutes without boiling. Allow the sample to cool, add 5 ml of concentrated HNO_3 , replace the watch glass, and reflux for 30 minutes. Do not allow the volume to be reduced to less than 5 ml while maintaining a covering of solution over the bottom of the beaker.

6.3 After the second reflux step has been completed and the sample has cooled, add 2 ml of Type II water and 3 ml of 30% hydrogen peroxide (H_2O_2). Return the beaker to the hot plate for warming to start the peroxide reaction. Care must be taken to ensure that losses do not occur due to excessively vigorous effervescence. Heat until effervescence subsides, and cool the beaker.

6.4 Continue to add 30% H_2O_2 in 1 ml aliquots with warming until the effervescence is minimal or until the general sample appearance is unchanged. (NOTE: Do not add more than a total of 10 ml 30% H_2O_2 .)

6.5 If the sample is being prepared for the furnace AA analysis of Sn and Sb, the flame AA or ICP analysis of Al, Sb, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Ag, Na, Tl, Sn, V, and Zn, add 5 ml of 1:1 HCl and 10 ml of Type II water, return the covered beaker to the hot plate, and heat for an additional 10 minutes. After cooling, filter through Whatman No. 42 filter paper (or equivalent) and dilute to 100 ml with Type II water (or centrifuge the sample - see Note 1). The diluted sample has an approximate acid concentration of 2.5% (v/v) HCl and 5% (v/v) HNO_3 . Dilute the digestate 1:5 with the deionized water. The sample is now ready for analysis.

6.6 If the sample is being prepared for the furnace analysis of As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Ni, Se, Ag, Tl, V, and Zn, continue heating the acid-peroxide digestate until the volume has been reduced to approximately 2 ml, add 10 ml of Type II water, and warm the mixture. After cooling, filter through Whatman No. 42 filter paper (or equivalent - see Note 1) and dilute to 100 ml with Type II water (or centrifuge the sample). The diluted digestate solution contains approximately 2% (v/v) HNO_3 . Dilute the digestate 1:5 with deionized water. For analysis, withdraw aliquots of appropriate volume, and add any required reagent or matrix modifier. The sample is now ready for analysis.

7. Calculations

- 7.1 A separate determination of percent solids must be performed (Exhibit D, Attachment 9).
- 7.2 The concentrations determined in the digest are to be reported on the basis of the dry weight of the sample.

$$\text{Concentration (dry wt.) (mg/kg)} = \frac{C \times V}{W \times S}$$

where C = Concentration (mg/L)
V = 0.1L (Final volume in liters after sample preparation)
W = 0.002 kg (weight in kg of wet sample)
S = % Solids/100

REF: Modification of Method 3050 from SW-846, Test Methods for Evaluating Solid Waste, EPA Office of Solid Waste and Emergency Response, July 1982.

METHOD 7420

LEAD (ATOMIC ABSORPTION, DIRECT ASPIRATION)

1.0 SCOPE AND APPLICATION

1.1 See Section 1.0 of Method 7000.

2.0 SUMMARY OF METHOD

2.1 See Section 2.0 of Method 7000.

3.0 INTERFERENCES

3.1 See Section 3.0 of Method 7000 if interferences are suspected.

3.2 Background correction is required at either wavelength.

4.0 APPARATUS AND MATERIALS

4.1 For basic apparatus, see Section 4.0 of Method 7000.

4.2 Instrument parameters (general):

4.2.1 Lead hollow cathode lamp.

4.2.2 Wavelength: 283.3 nm (primary); 217.0 nm (alternate).

4.2.3 Fuel: Acetylene.

4.2.4 Oxidant: Air.

4.2.5 Type of flame: Oxidizing (fuel lean).

4.2.6 Background correction: Required.

5.0 REAGENTS

5.1 See Section 5.0 of Method 7000.

5.2 Preparation of standards:

5.2.1 Stock solution: Dissolve 1.599 g of lead nitrate, $\text{Pb}(\text{NO}_3)_2$ (analytical reagent grade), in Type II water, acidify with 10 mL redistilled HNO_3 , and dilute to 1 liter with Type II water. Alternatively, procure a certified standard from a supplier and verify by comparison with a second standard.

5.2.2 Prepare dilutions of the stock solution to be used as calibration standards at the time of analysis. The calibration standards should be prepared using the same type of acid and at the same concentration as will result in the sample to be analyzed after processing.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

6.1 See Chapter Three, Section 3.1.3, Sample Handling and Preservation.

7.0 PROCEDURE

7.1 Sample preparation: The procedures for preparation of the sample are given in Chapter Three, Section 3.2.

7.2 See Method 7000, Paragraph 7.2, Direct Aspiration.

8.0 QUALITY CONTROL

8.1 See Section 8.0 of Method 7000.

9.0 METHOD PERFORMANCE

9.1 The performance characteristics for an aqueous sample free of interferences are:

Optimum concentration range: 1-20 mg/L with a wavelength of 283.3 nm.

Sensitivity: 0.5 mg/L.

Detection limit: 0.1 mg/L.

9.2 For concentrations of lead below 0.2 mg/L, the furnace technique (Method 7421) is recommended.

9.3 Precision and accuracy data are available in Method 239.1 of Methods for Chemical Analysis of Water and Wastes.

9.4 The data shown in Table 1 were obtained from records of state and contractor laboratories. The data are intended to show the precision of the combined sample preparation and analysis method.

10.0 REFERENCES

1. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-82-055, December 1982, Method 239.1.

2. Gaskill, A., Compilation and Evaluation of RCRA Method Performance Data, Work Assignment No. 2, EPA Contract No. 68-01-7075, September 1986.

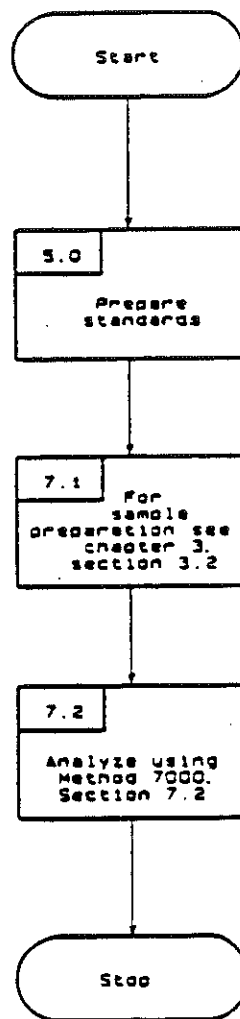
TABLE 1. METHOD PERFORMANCE DATA

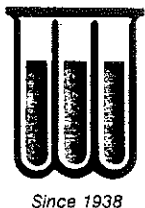
Sample Matrix	Preparation Method	Laboratory Replicates
Wastewater treatment sludge	3050	450, 404 ug/g
Emission control dust	3050	42,500, 63,600 ug/g

Appendix II

Complete Surface and Subsurface Soil Sampling Data

METHOD 7420
LEAD (ATOMIC ABSORPTION, DIRECT ASPIRATION)





WADSWORTH/ALERT
LABORATORIES, INC.

Sampling, testing, mobile labs

ANALYTICAL REPORT

GRADY McCAULEY

Presented to :

TOM PERKINS

OHIO DRILLING

WADSWORTH/ALERT LABORATORIES, INC.

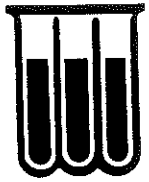
Marvin W. Stephens

Marvin W. Stephens, Ph. D.
Vice President & Corporate Technical Director

January 15, 1988



CORPORATE AND LABORATORY: North Canton, Ohio (216) 497-9396
LABORATORY: Cleveland, Ohio (216) 642-9151
LABORATORY: Bartow, Florida (813) 533-2150
SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590
24-HOUR ALERT LINE: (216) 454-8304



WADSWORTH/ALERT
LABORATORIES, INC.



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49729
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-B-1 12/28/87 8-B-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	92	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49730
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-B-2 12/28/87 8-B-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	25	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	90	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49731
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-B-3 12/28/87 8-B-2 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	21	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49732
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 9-B-1 12/28/87 9-B-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	92	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49733
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 9-B-2 12/28/87 9-B-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	78	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49734
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 9-B-3 12/28/87 9-B-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	14	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49735
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-B-1 12/28/87 10-B-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	25	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	91	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49736
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-B-2 12/28/87 10-B-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	26	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49737
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-B-3 12/28/87 10-B-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	18	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	83	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49738
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-C-1 12/28/87 10-C-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	92	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49739
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-C-2 12/28/87 10-C-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	90	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49740
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-C-3 12/28/87 10-C-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	14	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49741
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-A-1 12/28/87 10-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	9.6	1 mg/kg
Total Solids	1/ 7- 1/ 8/88	87	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49742
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-A-2 12/28/87 10-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	12/ 7- 1/ 7/88	20	1 mg/kg
Total Solids	12/ 7- 1/ 7/88	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49743
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 10-A-3 12/28/87 10-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	12/ 7- 1/ 7/88	12	1 mg/kg
Total Solids	12/ 7- 1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49744
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 9-A-1 12/28/87 9-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	7.4	.1 mg/kg
Total Solids	1/ 7/88	94	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49745
SAMPLE MATRIX : SOIL

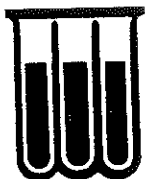
RECEIVING DATE : 12/30/87

SAMPLE ID : 9-A-2 12/28/87 9-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	20	1 mg/kg
Total Solids	1/ 7/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49746
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 9-A-3 12/28/87 9-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	5.6	1 mg/kg
Total Solids	1/ 7/88	90	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49747
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-A-1 12/28/87 8-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	12	.1 mg/kg
Total Solids	1/ 7/88	93	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49748
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-A-2 12/28/87 8-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	18	1 mg/kg
Total Solids	1/ 7/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49749
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 8-A-3 12/28/87 8-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	6.8	1 mg/kg
Total Solids	1/ 7/88	92	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49750
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 7-A-1 12/28/87 7-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	14	1 mg/kg
Total Solids	1/ 7/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49751
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 7-A-2 12/28/87 7-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	22	1 mg/kg
Total Solids	1/ 7/88	80	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49752
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 7-A-3 12/28/87 7-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	13	1 mg/kg
Total Solids	1/ 7/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49753
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-A-1 12/28/87 6-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	8.6	1 mg/kg
Total Solids	1/ 7/88	89	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49754
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-A-2 12/28/87 6-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	29	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49755
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-A-3 12/28/87 6-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	17	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49756
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 5-A-1 12/28/87 5-A-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	56	1 mg/kg
Total Solids	1/ 7/88	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49757
SAMPLE MATRIX : SOIL

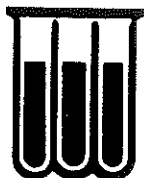
RECEIVING DATE : 12/30/87

SAMPLE ID : 5-A-2 12/28/87 5-A-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	17	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49758
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 5-A-3 12/28/87 5-A-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	11	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49759
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-B-1 12/28/87 6-B-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	240	1 mg/kg
Total Solids	1/ 7/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49760
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-B-2 12/28/87 6-B-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	14	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49761
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 6-B-3 12/28/87 6-B-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	71	1 mg/kg
Total Solids	1/ 7/88	84	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49762
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 20-B-1 12/28/87 20-B-1 SURFACE

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	43	1 mg/kg
Total Solids	1/ 7/88	83	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49763
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 20-B-2 12/28/87 20-B-2 2.5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	21	1 mg/kg
Total Solids	1/ 7/88	77	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4166-49764
SAMPLE MATRIX : SOIL

RECEIVING DATE : 12/30/87

SAMPLE ID : 20-B-3 12/28/87 20-B-3 5 FEET

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7/88	8.2	1 mg/kg
Total Solids	1/ 7/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY CONTROL SECTION



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY
49759	Lead	92	94
49740	Lead	78	68



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE RECOVERY
CONTROL LIMITS

PARAMETER	WATER RECOVERY CONTROL LIMITS	SOLID RECOVERY CONTROL LIMITS
Aluminum	75-125	75-125
Antimony	70-130	55-145
Arsenic	61-137	42-156
Barium	79-114	71-123
Beryllium	70-114	59-124
Cadmium	75-115	65-125
Calcium	74-115	63-126
Chromium	73-117	62-128
Copper	82-110	75-117
Iron	73-118	63-129
Lead	62-126	46-142
Magnesium	76-120	65-131
Manganese	82-113	74-120
Mercury	80-120	70-130
Nickel	79-111	71-119
Potassium	77-113	68-122
Selenium	50-130	30-150
Silver	79-110	71-118
Sodium	84-112	77-119
Strontium	78-118	68-128
Thallium	62-129	45-146
Zinc	68-124	54-138

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707

(216) 454-8304

Chain-of Custody Record

No. 9066

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CONTAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)														
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION									
Grady McCauley														
Roddy Fox														
8-B-1	12-28-87					8-B-1 Surface	1							
8-B-2	12-28-87					8-B-2 2 1/2 Feet	1						Analyze for Total Lead using SW846 3050 & 7420	
8-B-3	12-28-87					8-B-3 5 Feet	1							
9-B-1	12-28-87					9-B-1 Surface	1							
9-B-2	12/28/87					9-B-2 2 1/2 Feet	1							
9-B-3	12/28/87					9-B-3 5 Feet	1							
10-B-1	12/28/87					10-B-1 Surface	1							
10-B-2	12/28/87					10-B-2 2 1/2 Feet	1							
10-B-3	12/28/87					10-B-3 5 Feet	1							
10-C-1	12/28/87					10-C-1 Surface	1							
10-C-2	12/28/87					10-C-2 2 1/2 Feet	1							
10-C-3	12/28/87					10-C-3 5 Feet	1							
10-A-1	12/28/87					10-A-1 Surface	1							
10-A-2	12/28/87					10-A-2 2 1/2 Feet	1							
10-A-3	12/28/87					10-A-3 5 Feet	1							
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)				
Roddy Fox		12-30-87 7:05 am		Thomas J. Perkins										
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)				
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks						
Tom Perkins		12/30/87 10:55		Jeff Smith		12/30/87 10:55								

Distribution Original Accompanies Shipment. Copy returned with Report.



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : Wadsworth/Alert Laboratories
LABORATORY ID : 9288-92107
SAMPLE MATRIX : SOLID

RECEIVING DATE : 1/ 7/88

SAMPLE ID : INTRA-LAB BLANK , 1 /7 /88

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Barium	1/ 7/88	ND	0.2 mg/kg
Mercury	1/ 7/88	ND	0.1 mg/kg
Lead	1/ 7/88	ND	1 mg/kg

ND - NONE DETECTED

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707

(216) 454-8304

Chain-of Custody Record

No. 9067

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CON- TAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)								/ / / / /						
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION									
9-A-1	12/28/87				9-A-1 Surface		1							Analyze for total lead using SW849 3050+7420
9-A-2	12/28/87				9-A-2 2 1/2 Feet		1							
9-A-3	12/28/87				9-A-3 5 Feet		1							
8-A-1	12/28/87				8-A-1 Surface		1							
8-A-2	12/28/87				8-A-2 2 1/2 Feet		1							
8-A-3	12/28/87				8-A-3 5 Feet		1							
7-A-1	12/28/87				7-A-1 Surface		1							
7-A-2	12/28/87				7-A-1 2 1/2 Feet		1							
7-A-3	12/28/87				7-A-1 5 Feet		1							
6-A-1	12/28/87				6-A-1 Surface		1							
6-A-2	12/28/87				6-A-2 2 1/2 Feet		1							
6-A-3	12/28/87				6-A-3 5 Feet		1							
5-A-1	12/28/87				5-A-1 Surface		1							
5-A-2	12/28/87				5-A-2 2 1/2 Feet		1							
5-A-3	12/28/87				5-A-3 5 Feet		1							

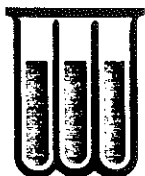
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
<i>Rocky Fox</i>	12-30-87 7:05 AM	<i>Thomas J. Perkins</i>			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
<i>Tom Perkins</i>	12/30/87 10:05 AM	<i>Jeff Smith</i>	12/30/87 10:55 AM		

Distribution Original Accompanies Shipment. Copy returned with Report.

1600 FOURTH ST. S.E., CANTON, OHIO 44707
(216) 454-8304

№ 9068.

[illegible]



WADSWORTH/ALERT
LABORATORIES, INC.

Sampling, testing, mobile labs

Since 1938

ANALYTICAL REPORT

GRADY McCAULY

Presented to :

TOM PERKINS

OHIO DRILLING

WADSWORTH/ALERT LABORATORIES, INC.

Marvin W. Stephens / reg

Marvin W. Stephens, Ph. D.
Vice President & Corporate Technical Director

January 21, 1988



CORPORATE AND LABORATORY: North Canton, Ohio (216) 497-9396
LABORATORY: Cleveland, Ohio (216) 642-9151
LABORATORY: Bartow, Florida (813) 533-2150
SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590
24-HOUR ALERT LINE: (216) 454-8304



WADSWORTH/ALERT
LABORATORIES, INC.



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49796
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 15-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	210	1 mg/kg
Total Solids	1/ 7- 1/12/88	84	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49797
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 15-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/12/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49798
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 15-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	9.8 ^u	1 mg/kg
Total Solids	1/ 7- 1/12/88	94	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49799
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 14-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	510	1 mg/kg
Total Solids	1/ 7- 1/12/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49800
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 14-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	110	1 mg/kg
Total Solids	1/ 7- 1/12/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49801
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 14-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	100	1 mg/kg
Total Solids	1/ 7- 1/12/88	87	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49802
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 11-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	230	1 mg/kg
Total Solids	1/ 7- 1/12/88	82	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49806
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 4-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	5.2	1 mg/kg
Total Solids	1/ 7- 1/12/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49807
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 4-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	17	1 mg/kg
Total Solids	1/ 7- 1/12/88	87	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49808
SAMPLE MATRIX : SOIL

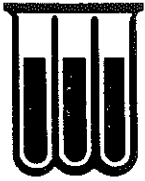
RECEIVING DATE : 1/ 4/88

SAMPLE ID : 3-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/87	22	1 mg/kg
Total Solids	1/ 7- 1/12/87	84	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49809
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 3-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/87	64	1 mg/kg
Total Solids	1/ 7- 1/12/87	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49810
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 3-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/87	13	1 mg/kg
Total Solids	1/ 7- 1/12/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49811
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 2-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	17	1 mg/kg
Total Solids	1/ 7- 1/12/88	82	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49812
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 2-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	80	1 mg/kg
Total Solids	1/ 7- 1/12/88	83	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49813
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 2-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	330	1 mg/kg
Total Solids	1/ 7- 1/12/88	70	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49814
SAMPLE MATRIX : SOIL

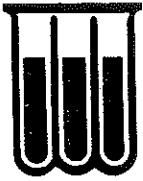
RECEIVING DATE : 1/ 4/88

SAMPLE ID : 1-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	320	1 mg/kg
Total Solids	1/ 7- 1/12/88	76	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49815
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 1-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	63	1 mg/kg
Total Solids	1/ 7- 1/12/88	78	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49816
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 1-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	8	1 mg/kg
Total Solids	1/ 7- 1/12/88	82	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49817
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 21-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	82	1 mg/kg
Total Solids	1/ 7- 1/12/88	78	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49818
SAMPLE MATRIX : SOIL

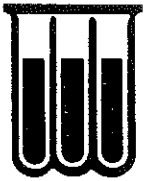
RECEIVING DATE : 1/ 4/88

SAMPLE ID : 21-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/13/88	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49819
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 21-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	11	1 mg/kg
Total Solids	1/ 7- 1/13/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49820
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	71	1 mg/kg
Total Solids	1/ 7- 1/13/88	74	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49821
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/13/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49822
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	10	1 mg/kg
Total Solids	1/ 7- 1/13/88	91	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49823
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-B-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	130	1 mg/kg
Total Solids	1/ 7- 1/13/88	77	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49824
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-B-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/13/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49825
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 22-B-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/13/88	90	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49826
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 20-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	30	1 mg/kg
Total Solids	1/ 7- 1/13/88	82	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49827
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 20-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	11	1 mg/kg
Total Solids	1/ 7- 1/13/88	79	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49828
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 20-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	13	1 mg/kg
Total Solids	1/ 7- 1/13/88	88	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49829
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 19-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	52	1 mg/kg
Total Solids	1/ 7- 1/13/88	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49830
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 19-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/13/88	83	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49837
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 17-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	18	1 mg/kg
Total Solids	1/ 7- 1/13/88	92	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49838
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 16-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	150	1 mg/kg
Total Solids	1/ 7- 1/14/88	85	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49839
SAMPLE MATRIX : SOIL

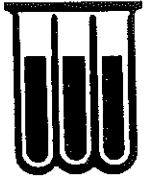
RECEIVING DATE : 1/ 4/88

SAMPLE ID : 16-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	35	1 mg/kg
Total Solids	1/ 7- 1/14/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49840
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 16-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	17	1 mg/kg
Total Solids	1/ 7- 1/14/88	95	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49841
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-A-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	59	1 mg/kg
Total Solids	1/ 7- 1/14/88	81	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49842
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-A-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	8.4	1 mg/kg
Total Solids	1/ 7- 1/14/88	82	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49843
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-A-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	12	1 mg/kg
Total Solids	1/ 7- 1/14/88	79	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49844
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-B-1 SURFACE 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	74	1 mg/kg
Total Solids	1/ 7- 1/14/88	77	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49845
SAMPLE MATRIX : SOIL

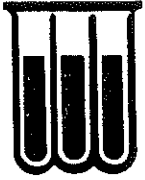
RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-B-2 2 1/2 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	11	1 mg/kg
Total Solids	1/ 7- 1/14/88	84	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 4181-49846
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/ 4/88

SAMPLE ID : 23-B-3 5 FEET 12/30/87

Analysis performed on an as received basis

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Lead	1/ 7- 1/ 8/88	11	1 mg/kg
Total Solids	1/ 7- 1/14/88	86	0.5 %

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY CONTROL SECTION



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY
49832	Lead	100	94
880107	Lead	92	94
880107	Lead	78	68



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE RECOVERY
CONTROL LIMITS

PARAMETER	WATER RECOVERY CONTROL LIMITS	SOLID RECOVERY CONTROL LIMITS
Aluminum	75-125	75-125
Antimony	70-130	55-145
Arsenic	61-137	42-156
Barium	79-114	71-123
Beryllium	70-114	59-124
Cadmium	75-115	65-125
Calcium	74-115	63-126
Chromium	73-117	62-128
Copper	82-110	75-117
Iron	73-118	63-129
Lead	62-126	46-142
Magnesium	76-120	65-131
Manganese	82-113	74-120
Mercury	80-120	70-130
Nickel	79-111	71-119
Potassium	77-113	68-122
Selenium	50-130	30-150
Silver	79-110	71-118
Sodium	84-112	77-119
Strontium	78-118	68-128
Thallium	62-129	45-146
Zinc	68-124	54-138



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : Wadsworth/Alert Laboratories
LABORATORY ID : 9288-92108
SAMPLE MATRIX : SOLID

RECEIVING DATE : 1/ 8/88

SAMPLE ID : INTRA-LAB BLANK , 1 /8 /88

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Silver	1/ 8/88	ND	0.2 mg/kg
Arsenic	1/ 8/88	ND	0.1 mg/kg
Barium	1/ 8/88	ND	0.2 mg/kg
Beryllium	1/ 8/88	ND	0.1 mg/kg
Cadmium	1/ 8/88	ND	0.2 mg/kg
Chromium	1/ 8/88	ND	0.4 mg/kg
Copper	1/ 8/88	ND	0.2 mg/kg
Nickel	1/ 8/88	ND	0.8 mg/kg
Lead	1/ 8/88	ND	1 mg/kg
Zinc	1/ 8/88	ND	0.2 mg/kg

ND - NONE DETECTED

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707

(216) 454-8304

Chain-of Custody Record

No. 9069

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CON- TAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)														
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION									
15-A-1	12-30-87				15-A-1 Surface		1							
15-A-2	12-30-87				15-A-2 2 1/2 Feet		1							
15-A-3	12-30-87				15-A-3 5 Feet		1							
14-A-1	12-30-87				14-A-1 Surface		1							
14-A-2	12-30-87				14-A-2 2 1/2 Feet		1							
14-A-3	12-30-87				14-A-3 5 Feet		1							
11-A-1	12-30-87				11-A-1 Surface		1							
11-A-2	12-30-87				11-A-2 2 1/2 Feet		1							
11-A-3	12-30-87				11-A-3 5 Feet		1							
4-A-1	12-30-87				4-A-1 Surface		1							
4-A-2	12-30-87				4-A-2 2 1/2 Feet		1							
4-A-3	12-30-87				4-A-3 5 Feet		1							
3-A-1	12-30-87				3-A-1 Surface		1							
3-A-2	12-30-87				3-A-2 2 1/2 Feet		1							
3-A-3	12-30-87				3-A-3 5 Feet		1							

Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Rodney Fox		1/4/88 0700		Tom Perkins							
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by:		Date / Time		Remarks			
Tom Perkins				Alexandra Dwyer		1/4/88 11 AM					

Distribution Original Accompanies Shipment. Copy returned with Report.

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707
(216) 454-8304

Chain-of Custody Record

№ 9070

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CONTAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)														
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION									
2-A-1	12-30-87				2-A-1 Surface		1							
2-A-2	12-30-87				2-A-2 2 1/2 Feet		1							
2-A-3	12-30-87				2-A-3 5 Feet		1							
1-A-1	12-30-87				1-A-1 Surface		1							
1-A-2	12-30-87				1-A-2 2 1/2 Feet		1							
1-A-3	12-30-87				1-A-3 5 Feet		1							
21-A-1	12-30-87				21-A-1 Surface		1							
21-A-2	12-30-87				21-A-2 2 1/2 Feet		1							
21-A-3	12-30-87				21-A-3 5 Feet		1							
22-A-1	12-30-87				22-A-1 Surface		1							
22-A-2	12-30-87				22-A-2 2 1/2 Feet		1							
22-A-3	12-30-87				22-A-3 5 Feet		1							
22-B-1	12-30-87				22-B-1 Surface		1							
22-B-2	12-30-87				22-B-2 2 1/2 Feet		1							
22-B-3	12-30-87				22-B-3 5 Feet		1							
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Rodney Fox			1/4/88 0700		Tom Berken									
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)	
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks				
Tom Berken					Alexandra Ford			1/4/88 11:00 AM						

Distribution Original Accompanies Shipment. Copy returned with Report.

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707

(216) 454-8304

Chain-of Custody Record

No 5831

PROJ. NO.		PROJECT NAME/LOCATION				NO. OF CON- TAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)													
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION								
20-A-1	12-30-87				20-A-1 Surface	1							
20-A-2	12-30-87				20-A-2 2 1/2 Feet	1							
20-A-3	12-30-87				20-A-3 5 Feet	1							
19-A-1	12-30-87				19-A-1 Surface	1							
19-A-2	12-30-87				19-A-2 2 1/2 Feet	1							
19-A-3	12-30-87				19-A-3 5 Feet	1							
18-A-1	12-30-87				18-A-1 Surface	1							
18-A-2	12-30-87				18-A-2 2 1/2 Feet	1							
18-A-3	12-30-87				18-A-3 5 Feet	1							
17-A-1	12-30-87				17-A-1 Surface	1							
17-A-2	12-30-87				17-A-2 2 1/2 Feet	1							
17-A-3	12-30-87				17-A-3 5 Feet	1							
16-A-1	12-30-87				16-A-1 Surface	1							
16-A-2	12-30-87				16-A-2 2 1/2 Feet	1							
16-A-3	12-30-87				16-A-3 5 Feet	1							

Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Rodney Fox		1/4/88 0700		Tom Beckwith							
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks			
Tom Beckwith				Alexia Dangel		1/4/88 11:00 AM					

Distribution Original Accompanies Shipment. Copy returned with Report.

Chain of Custody Record

Project Name:

Sampler:

[illegible]

	Relinquished By:	Received By:	Date and Time
1	Tom Perkins	Alexis Dargatzis	1/4/88 11:00 AM
2			
3			
4			
5			
6			

Appendix III

Complete Background Surface Soil Sampling Data

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707
(216) 454-8304

Chain-of Custody Record

No 6975

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CONTAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)								/ / / / /						
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION									
24	1-28-88	11:00			Surface	1								
24		11:15			2' 6"	1								
24-1		11:25			Surface	1								
24-1		11:30			2' 6"	1								
24-2					Surface	1								
24-2					2' 6"	1								
24-3					Surface	1								
24-3					2' 6"	1								
24-4					Surface	1								
24-4					2' 6"	1								
24-5					Surface	1								
24-5					2' 6"	1								
24-6					Surface	1								
24-6					2' 6"	1								

Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Jonathan A. Hofacre		1-28-88 3:30									
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)	
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks			
				Keri Cleverly		1-28-88 3:30pm					

Distribution Original Accompanies Shipment. Copy returned with Report.

WADSWORTH/ALERT LABORATORIES

1600 FOURTH ST. S.E., CANTON, OHIO 44707
(216) 454-8304

Chain-of Custody Record

No 6974

PROJ. NO.		PROJECT NAME/LOCATION					NO. OF CONTAINERS	PARAMETER						REMARKS
SAMPLERS: (Signature)														
STA. NO.	DATE	TIME	COMP.	GRAB.	STATION LOCATION									
24-7	1-28-88				Surface	1								
24-7					2' 6"	1								
24-8					Surface	1								
24-8					2' 6"	1								
24-9					Surface	1								
24-9					2' 6"	1								
24-10					Surface	1								
24-10					2' 6"	1								
24-11					Surface	1								
24-11					2' 6"	1								
24-12					Surface	1								
24-12					2' 6"	1								
<div> <div>Relinquished by: (Signature)</div> <div>Jonathan A. Hofack</div> </div> <div> <div>Date / Time</div> <div>1-28-88 3:30</div> </div> <div> <div>Received by: (Signature)</div> <div></div> </div> <div> <div>Relinquished by: (Signature)</div> <div></div> </div> <div> <div>Date / Time</div> <div></div> </div> <div> <div>Received by: (Signature)</div> <div></div> </div>														
<div> <div>Relinquished by: (Signature)</div> <div></div> </div> <div> <div>Date / Time</div> <div></div> </div> <div> <div>Received by: (Signature)</div> <div></div> </div> <div> <div>Relinquished by: (Signature)</div> <div></div> </div> <div> <div>Date / Time</div> <div></div> </div> <div> <div>Received by: (Signature)</div> <div></div> </div>														
<div> <div>Relinquished by: (Signature)</div> <div></div> </div> <div> <div>Date / Time</div> <div></div> </div> <div> <div>Received for Laboratory by: (Signature)</div> <div>Shawn McCarty</div> </div> <div> <div>Date / Time</div> <div>1-28-88 3:30</div> </div> <div> <div>Remarks</div> <div></div> </div>														

Distribution Original Accompanies Shipment. Copy returned with Report.